

PROJECT NUMBER: 1740  
PROJECT TITLE: Flavor Components of Tobacco and Filler  
PROJECT LEADER: C. S. Kroustalis  
PERIOD COVERED: October, 1985

## I. FLAVORS

A. Several CSTR cooked flavors were profiled for volatile pyrazines. The profiles were similar to normal precook samples.

B. Kretek cigarettes were analyzed for eugenol and nicotine deliveries to mainstream smoke. Djarum delivered 20% of the eugenol and 14.5% of the nicotine to mainstream. Gudang Garam deliveries were 22% for eugenol and 23% for nicotine. Both cigarettes had high puff counts (18 to 22 per cigarette).

C. Favor "cigarettes" were analyzed for flavorants in the Dacron plug. The majority of the components were nicotine alkaloids with nicotine being the highest in concentration. The menthol version contained lower concentrations of alkaloids and menthol of comparable concentration to nicotine.

D. Guatemalan menthol was compared to natural menthol for purity and isomer ratios. Both met specifications although menthone was higher in concentration in the test sample.

E. Three types of an AC component were profiled. The proposed substitute was significantly different than the control.

F. Theobromine was determined for the Marlboro standardization program and in several menthol brands. Only Salem contained theobromine indicating that the other competitive menthol brands do not contain chocolate.

## II. OTHERS

A. The screening of warehouse RL for volatile fatty acids has continued. Approximately 400 samples have been analyzed during this period. In addition, Pilot Plant and Park 500 samples with substitute humectants were screened for volatile fatty acids.

B. Pilot Plant RL of low, medium and high acetic acid levels were extracted and analyzed for indole and skatole. There were no detectable levels present of either compounds. The lower limit of detection was 0.5 ppm. However, there were quantitative differences in butanediols and several other compounds which will be identified. To determine whether some other marker for spoilage exists, D. Chadick has inoculated autoclaved RL with bacteria isolated from SEL and stored it at 80% R.H. and 37 degrees C for a week. Samples were taken daily and they are currently analyzed.

C. Three customer complaint samples were analyzed this period.

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D. Samples from outside the Allegheny warehouse fumigation chamber were analyzed for phosphine. Although the odorant with phosphine was detectable, the concentration found was 0.02 ppm.

III. Presentation and MEMOS

1. C. S. Kroustalis, "DEG in German Marlboro and Reconstituted Sheet Materials," Richmond Meeting Presentation, October 8, 1985.
2. C. S. Kroustalis to T. S. Osdene, "Kreteks," October 14, 1985.
3. C. S. Kroustalis to E. Wickham, "GC/MS Analysis of Favor," October 14, 1985.
4. C. S. Kroustalis to R. D. Carpenter, "B&H Deluxe Ultralights 100's (CC #85049)," October 14, 1985.

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